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FLEIT KAIN GIBBONS GUTMAN BONGINI & BIANCO
21355 EAST DIXIE HIGHWAY
SUITE 115
MIAMI, FL 33180

EXAMINER
SON, LINH L D

ART UNIT	PAPER NUMBER
2135	

DATE MAILED: 04/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>02 February 2006</u>.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14 and 16-22* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14 and 16-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This Office Action is responding to the Amendment received on 02/02/06.

2.   Claims 1-14, and 15-22 are pending.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4.   Claims 1-3, 5-9, 11, and 16-22 are rejected under 35 U.S.C. 102(e) as being

anticipated by Ausubel, US/5905975.

5.   As per claims 1 and 2:

Ausubel discloses "A method for preserving the integrity of a negotiation

comprising the steps of: a) providing an architecture which includes a center A (Fig 1),

and a plurality of users B_1, B_2 to B_n (Fig 1, Col 24 lines 40-50, and Col 26

lines 5-20), b) generating for each user B_i an input X_i (Col 26 lines 20-40), c)

inputting each user's input X_i to the center A (Col 26 lines 20-40), d) computing and

publishing a function F (X.sub.1, X.sub.2 to X.sub.n) (subroutine) by the center A based

on the input messages it receives (Col 26 line 65 to Col 27 line 12), "including

generating a proof that the correct output of the function F(X.sub.1, X.sub.2,..., X.sub.n)

was computed," in (Col 22 lines 30-60, and Col 27 lines 1-11); e) each user B.sub.i (1<=

i<= n) communicating with the center A exclusively (Col 21 lines 10-35), and publishing

by center A to each of the users additional information which let each of the users verify

that F was computed correctly, and preventing a coalition of any one subset of the users

from learning (i) anything which cannot be computed just from the output of the function,

F(X.sub.1 to X.sub.n), and from their own inputs, and (ii) information about the inputs of

other users (Col 25 lines 59 to Col 26 line 4, and Col 27 lines 1-13).

6.   As per claim 3:

Ausubel discloses "the method according to any one of claims 1, for computing

the output of a sealed bid auction (Col 21 lines 10-35), where the users are bidders and

the center is the auctioneer, and wherein the input X.sub.i is the bid of bidder B.sub.i,

and an output of F is the identity of the winning bidder and the amount to be paid, and

wherein the center only makes disclosure to the winning bidder, while all other bidders

being able to verify that the auction was computed correctly, but do not learn any other

information (Col 25 lines 59 to Col 26 line 4).

7.   As per claim 5:

Ausubel discloses "discloses the method according claims 1, for second price auctions

(Vickrey auctions), where the output of F is (B.sub.j1, X.sub.j2), where X.sub.j1 is

greater or equal to any X.sub.i for 1 <=i <=n, and X.sub.j2 is greater or equal to any

X.sub.i for 1 <=i <=n except for i=j1" in (Col 25 lines 1-20).

8.   As per claim 6:

Ausubel discloses "the method according to claims 1, for k-th price auctions, where the

output of F is (B.sub.j1, X.sub.j2), where X.subj1 is greater or equal to any X.sub.i for 1

<=i <=n, and X.sub.j2 is the k-th largest among all inputs X.sub.i for 1<=i<=n" in (Col 25

lines 1-45).

9.   As per claim 7:

Ausubel discloses "the method according to claim 1 wherein the auction is a plural

auction where there is a plurality of sellers" in (Col 7 lines 25-35)

10.   As per claim 8:

Ausubel discloses "discloses the method according to claim 1 wherein the auction is a

generalized Vickrey auction" in (Col 4 lines 55-67)

11.   As per claim 11:

Ausubel discloses "discloses the method according to claim 1, comprising the step of

computing the output of the function such that only the center learns the output of the

function or several of the users learn the output of the function, or all the users learn the

output of the function" in (Col 25 lines 59 to Col 26 line 4).

12.   As per claim 16:

Ausubel discloses "discloses the method according to claim 1, comprising the step of

computing a function by N centers, such that only if K of the N centers collude they can

learn information about the parties inputs

13.   As per claims 17-18, and 22:

Ausubel discloses "Secure Auction Systems" invention, which includes a system

that contains N parties (Fig 1), each having a private input" (Col 21 lines 10-35), and "a

center adapted to compute a function F of said input apparatus for computing said

function F in said center, comprising: a first program (subroutine) provided in the center

that enables calculation of said function F" in (Col 26 lines 20-65) and a proof that the

function F was computed correctly" in (Col 22 lines 30-60, and Col 27 lines 1-11);

circuitry for publishing said function F using the program while not revealing

substantially any information about said input (Col 8 lines 1-17, and Col 26 line 65 to

Col 27 line 12); "a second program provided to the parties enabling each one of said

parties to prove that said function F was calculated correctly" in (Col 27 lines 4-11, the

calculation of the result of everybody else with the bid of user I to get the proof, which

will equal to the information in the message sent).

14.   As per claim 19:

Ausubel discloses "a system according to claim 17, wherein the second program

precludes the learning of any information other than the function F was calculated

correctly in a system according to claim 17, wherein the first program includes a

construction of K garbled circuits for computing function F (Col 26 lines 20-65).

15.   As per claim 20:

Ausubel discloses "a system according to claim 17, wherein said parties are

bidders in an auction, said input are bids, said center is an auctioneer, said function F is

the rule by which said auction is decided, whereby the auctioneer is capable of

calculating the result of said auction without revealing any information about said bids,

except for the identity of the winning party from among said parties, and the amount to

pay (Col 26 line 65 to Col 27 line 12).

16.   As per claim 21:

Ausubel discloses "a system according to claim 20, wherein Ausubel inherently

teach the function is determined utilizing a circuit of gates" in (Col 8 lines 1-17).

Claim Rejections - 35 USC § 103

17.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

18.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ausubel

19.   As per claim 9:

Ausubel discloses the method according to claim 1. However, Ausubel does not

teach the step of, computing the auction such that the auctioneer wants to buy an item

and each of the bidders wants to sell this item, and wherein negative values of the

inputs X.sub.i are possible. Nevertheless, Ausubel does teach many types of auction

and method to carry out (Col 1 lines 38-67). Therefore, it is obvious at the time of the

invention was made for one having ordinary skill in the art that changing roles in an

auction is explicitly teach and would have been obvious for one having ordinary skill in

the art to implement.

20.   Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ausubel
       in view of Shoham (US 6285989) (cited in 892 dated 05/19/05).

21.   As per claim 10:

Ausubel discloses "the method according to claim 1". However, Ausubel does

not teach "comprising the step of; computing the output of the auction such that the

users learn, in addition, some statistic of the inputs, such as, the users can learn at least

one of the average of the inputs, the variance of the inputs, or how many one inputs

were in a certain range"

Nevertheless, Shoham does teaches "comprising the step of; computing the output of

the auction such that the users learn, in addition, some statistic of the inputs, such as,

the users can learn at least one of the average of the inputs, the variance of the inputs,

or how many one inputs were in a certain range" in (Col 15 lines 9-20).

Therefore, it would have been obvious at the time of the invention was made for one

having ordinary skill in the art to modify Ausubel's invention to include the average of

the inputs information in the message to provide information to the bidders.

22.   Claims 4, 8, and 12-14 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ausubel in view of Ausubel (US 6021398), hereinafter '398.

(cited in 892 dated 05/19/05)

23.   As per claim 4:

Ausubel discloses the method according to claims 1 and the first price auctions

(Col 1 lines 38-42). However, Ausubel does not elaborate the first price auctions, where

the output of F is (B_j, X_j), where X_j is greater or equal to any one X_i

for $1 <= i <= n$. Nevertheless, '398 does elaborate the first price auctions completely (Col

14 lines 48-67). Therefore, it is obvious at the time of the invention was made for one

having ordinary skill in the art to incorporate the '398's teaching with Ausubel to ensure

a great bidding process.

24.   As per claim 8:

Ausubel discloses the method according to claim 1. However, Ausubel does not

elaborate clearly that the auction is a generalized Vickrey auction (Col 6 Table 1).

Nevertheless, '398 does teach the Vickery auction clearly on Col 14 lines 48 to 65.

Therefore, it is obvious at the time of the invention was made for one having ordinary

skill in the art to incorporate the '398's teaching with Ausubel to clarify the Vickrey

auction process and provide a legitimate bidding result.

25.   As per claim 12:

Ausubel discloses the method according to claim 1. However, Ausubel does not

teach the step of, computing the output of a mechanism, in particular, for one of Groves-

clark mechanisms, opinion polling and stable matching. Nevertheless '398 does teach

the method to compute the output of the bidding session (Col 14 line 20 to Col 15 line

7). Therefore, it is obvious at the time of the invention was made for one having

ordinary skill in the art to incorporate to provide a legitimate bidding result.

26.   As per claims 13 and 14:

Ausubel discloses the method according to claim 1. However, Ausubel does not

discloses the steps of each user committing to the values of his input in a manner that

the user cannot change it afterwards, but hiding the input value from the center, at a

specific stage, the users opening their commitments to their inputs and revealing their

values to the center, which then computes the value of F in a manner the each of the

users can verify that the values that were used as inputs for computing F were the

values that were committed to by the users. Nevertheless, '398 discloses the

"Computer Implemented Methods and Apparatus For Auctions" invention, which

teaches steps to secure the bidding value until the opening time (Col 20 lines 39-65).

Therefore, it is obvious at the time of the invention was made for one having ordinary

skill in the art to incorporate the '398's teaching with Ausubel to create a high integrity

bidding process.

Response to Arguments

27.   As per remark on page 8 2nd paragraph, Applicant argues that Ausubel does not

disclose the amended limitation "generating a proof that the correct output of the

function F(X.sub.1, X.sub.2,..., X.sub.n) was computed" in claims 1 and similar

language in claim 17. Examiner respectfully disagrees with the Applicant. It is clearly

that Ausubel still anticipates the amended limitation in (Col 22 lines 30-60, and Col 27

lines 1-11). Ausubel teaches of sending a final message to the user to verify that the

winning bid is correct. Examiner interprets this message is a proof of the correct output.

Conclusion

28.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

29.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Linh LD Son whose telephone number is 571-

272-3856. The examiner can normally be reached on 9-6 (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kim Vu can be reached on 571-272-3859. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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Business Center (EBC) at 866-217-9197 (toll-free).

Linh LD Son
Examiner   HOSUK SONG
Art Unit 2135   PRIMARY EXAMINER